

CDM Federal Programs Corporation

November 16, 1987

Ms. Caroline Kwan
U.S. Environmental Protection Agency
26 Federal Plaza
New York, New York 10278

Contract No: 68-01-7331
Document No: T648-C02-EP-BGTG-1

Subject: Review of Esso Soil Gas Sampling Plan for the
Tutu Wellfield Site

Dear Ms. Kwan:

The purpose of this letter is to provide you with our comments on the Esso soil gas sampling plan for the Tutu Wellfield site.

As per our meeting with you on November 15, 1987 we explained that our concerns were with the following:

Work Plan

251671



The methodology of the soil gas investigation and the hydrogeologic setting (local soil conditions) were not clearly stated in the description of work. This work plan does not seem to be thought out.

A diagram of the probe, pump tubing, bentonite, etc is essential to understanding the procedure they are proposing. Specific dimensions and material of the probe itself are not given. Use of a bentonite seal is unclear. Seal will be disturbed with each drive. Tracer's technique (Texaco Work Plan) of a nipple/hose clamp seemed more viable. Without a diagram it is just very difficult to interpret.

Use of a tedlar bag to first collect the air sample followed by extraction via a glass syringe is not mentioned in the QAPP, if they are using the tedlar bag to "archive" the sample, how will they store the bags?

The collection of soil samples with a hollow stem auger is a conscientious task, although they need to be more specific on the utility of the soil samples which will be collected. It is suggested that they should do headspace analysis on the samples 15-30 minutes after collection to supplement the field screening program. Follow up laboratory analysis of the soil samples is also recommended. (After spending the money to mobilize the rig etc. the added expense of indicator parameter analyses, i.e. total hydrocarbons/benzene seems relatively minor.) Moisture content and grain size distribution determinations, by themselves, are inadequate for characterization of the soils. It should also be noted that taking soil samples are not necessary in this preliminary screening phase to define the plume. Esso will store the soil samples for the duration of this investigation. They do not say how or why this will be done nor do they indicate how the work being performed will go through transition (i.e. soil gas sampling to soil sampling), if any, is required.

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Lack of background soil samples and offsite sampling is not acceptable. If Esso agrees to offsite sampling and background soil samples, the selection of the locations should be a field decision. Also, it should be noted that for specific sample points additional analyses may be needed (chlorinated hydrocarbons). This was not mentioned in the work plan.

Esso does not indicate how the sampling grid pattern was established. Some reason should be stated. The rationale for the locations are in the QA/QC Plan but not the spacing or numbers of samples that may be required. The number and locations of the samples should not be concrete but subject to field judgement. This will enable you to expand the grid or condense sampling in an area of contamination.

The continuous soil gas depth profile sample procedures will continue at 2-foot intervals until the soil/ground water interface is reached. Work done at the location to date indicates that groundwater interface may not be reached. This issue should be addressed since sample depth is definitely a concern.

The attached figures in the work plan were not drawn to scale. The N-arrows were missing and the location of the Esso Station in relation to the adjacent properties was unclear.

Monitoring well installation was indicated. This is a new aspect of the work plan. When monitoring wells are needed, there will be a separate detailed plan submitted.

There is no reference to hydrogeologic site characterization, data analysis and interpretation, quality assurance and quality control and a performance schedule and schedule of deliverables. In addition, the work plan must address staffing and, if any, subcontracting (resumes were not attached).

Quality Assurance/Quality Control Plan

Use of "local groundwater to establish background hydrocarbon levels" is absolutely unacceptable without further clarification of what "local" is. Is the Tillett well considered local?

There is no mention of duplication samples to be done in the field to assure accuracy/precision. Only in the event that the 20% sent to Puerto Rico for laboratory analysis show incomparable data will replicate field measurements be taken. In the interim, is sample integrity assured?

Decontamination of probe/tubing/spoon/barrels is insufficient. Spoons, barrels probes etc.. should be steam cleaned after each sample. Region 2 SOPs may require special rinsing agents as well. I don't see how "soaking" will aid in decontamination. Pump tubing is relatively inexpensive and should be discarded between holes, purging on the line with insitu soil gas

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(Tracers method in the Texaco work plan) appears to be sufficient for samples taken from the same point.

Decontamination of drilling equipment: auger flights, drill stem, but etc.. should also be specified. (Steam cleaned after each boring)

Decontamination of the sample syringes is not mentioned. Will new syringes be used? Will they be baked in oven to a specified temperature as Tracer indicated in the Texaco work plan.

There is no mention of how decontamination water/material and drilling cuttings will be collected, containerized and disposed. A "pad" graded to drain to a collection point is necessary when steam cleaning to avoid spreading all over the place.

No mention of tedlar bags is made in the QAPP as it is in the work plan.

Treatment of QA/QC samples is very weak. Further discussion of spikes, duplicates and blanks should be made.

In general, we recommend that a meeting be scheduled with Esso, EPA and CDM FPC as soon as possible to discuss a re-submittal of a work plan that reflects the above referenced concerns.

Please call me if you have any questions.

Sincerely

CDM Federal Programs Corporation



Scott Graber
TES III Work Assignment Manager

SG:mm

cc: J. Font
NYC File